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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/736,935	12/16/2003	Timothy Paul Bock	4-43-7	5534
7590	12/15/2005		EXAMINER	
Wendy W. Koba PO Box 556 Springtown, PA 18081			AKANBI, ISIAKA O	
			ART UNIT	PAPER NUMBER
			2877	

DATE MAILED: 12/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/736,935

Applicant(s)

BOCK ET AL.

Examiner

Isiaka O. Akanbi

Art Unit

2877

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --****Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 16 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 17 March 2004.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Information Disclosure Statement***

The information disclosure statement file 17 March 2004 has been entered and reference considered by the examiner.

### ***Drawings***

The examiner approves the drawings filed 16 December 2003.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-4, 6-8, 10 and 12-13 are rejected under 35 U.S.C. 102(e) as being anticipated by Holmes (6,532,115 B2). The reference of Holmes discloses the features of the claimed as follows:

As regard to claim 1, Holmes discloses an arrangement for controlling the alignment direction of a light beam comprising of the following:

an active light (32/432) source for emitting a beam of light (fig. 2 and 3)(col. 4, line 6-10)(col. 6, line 62-64);

a passive receiver of light (14)(col.4, line 10-11) (col.5, line 36-38)

a MEMS mirror (27) (col.7, line 34-35)for receiving said beam of light from said active source and for reflecting said beam of light toward said passive receiver of light wherein said MEMS mirror is electrically controlled (44) to change its deflection profile until alignment is achieved (col. 5, line 49-51).

As to claim 2, according to claim 1, Holmes discloses wherein an arrangement for controlling the alignment direction of a light beam further comprises:

- a monitoring photodiode (42/442)(col. 5, line 27 34); and

- a beam splitter (38/438) associated with the MEMS mirror to enable said MEMS mirror (27) to split the beam emitted from said active light source into a first beam (32/432) and a second beam (28/428) wherein said first beam is directed toward the passive receiver of light and said second beam is directed toward said monitoring photodiode (col. 6, line 65-66)(col. 7, line 28-30).

As to claim 3, Holmes discloses wherein the beam splitter forms the first and second light beams comprises a predetermined power ratio by showing a portion of incoming light beam (32) reflected toward detector and another beam (28) directed toward the passive receiver (fig. 2 and 3).

As to claim 4, Holmes discloses wherein the monitoring photodiode (42) is operably connected to the active light source and to the MEMS mirror whereby a change in the strength of the first and second light beams causes the monitoring photodiode to generate the electrical signal used to change the deflection profile of the MEMS mirror (col. 6, line 63-col. 7, line 1-5).

As to claim 6, Holmes discloses wherein the passive receiver of light an optical fiber (col. 5, line 36-38).

Regarding to claim 7, Holmes discloses an arrangement for controlling the amount of optical power received at the input of a passive optical receiver comprising of the following:

- a passive receiver (306) of light (col. 7, line 7-10);

- at least two active light sources (304) each for emitting a beam of light (fig. 6); and

- at least two MEMS mirrors (300/308)(fig. 6), each of said at least two MEMS mirrors adapted to receive one of the light beams from the at least two active light sources, for receiving and reflecting said beams of light toward said passive receiver of light (col. 7, line 45-65).

As to claim 8, Holmes discloses wherein the passive receiver of light is an optical fiber (306)(col. 7, line 52).

Regarding to claim 10, Holmes discloses an arrangement for controlling the amount of optical power received at each input of at least two passive optical receivers comprising of the following:

- at least two passive receivers of light (306)(fig. 6);

at least two active light sources (304), each emitting a beam of light (302)(col. 7, line 41-42);

at least two MEMS mirrors (300/308), each of said at least two MEMS mirrors being adapted to receive one of the light beams from the at least two active light sources for receiving and reflecting said beams of light toward said passive receivers of light (col. 7, line 38-42).

As to claim 12, Holmes discloses wherein the at least two passive receivers of light are optical fibers (306)(fig. 6)(col. 7, line 52).

As to claim 13, Holmes discloses wherein each beam is operating at a different wavelength (col. 7, line 1-5).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 5, 9 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Holmes (6,532,115 B2).

Claims 5, 9 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Holmes. The reference of Holmes provided teaches of the features of claims 1, 7 and 10 however the reference of Holmes does not disclose the type of source use as being laser/lasers. The examiner wishes to take Official Notice of the fact that the use of laser/lasers as an active light source for emitting a beam of light would have been well known. It would have been obvious to one having ordinary skill in the art at the time of invention to use laser/lasers as a light source for the purpose of reflecting/transmitting the beam to a mirror, since these are well known laser/lasers used for their known advantages such as having a brilliant beam of highly monochromatic, coherent radiation is emitted through the mirror and focus onto the passive optical device/detector.

Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Holmes (6,532,115 B2) in view of Stowe et al (5,138,676).

Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over of Holmes in view of Duncan. The reference of Holmes discloses of the features of claim 14, comprising a passive optical device (304/306), an active light source (32/432/304), an alignment monitoring photodiode (42/442), a first and a second MEMS mirror (col. 7, line 39-42), and a control circuit disposed between the alignment monitoring photodiode and said first and second MEMS mirrors, said control circuit (44/382) responding to changes in optical power received by said alignment monitoring photodiode and generating alignment correction signals to said first and second MEMS mirrors to modify the deflection profile of said first and second MEMS mirrors and provide optical realignment (col. 6, line 66-col. 7, line 1-5)(col. 8, line 54-60), however the reference of Holmes is silent regarding the passive optical device as being single fiber transceiver (propagating optical signals in both a transmitting and a receiving direction). The reference of Stowe teaches of fiber optic transceiver (col. 19, line 15-20). It would have been obvious to one having ordinary skill in the art at the time of invention to use a single fiber transceiver in conjunction with plurality of MEMS mirror to design a first and a second MEMS mirror, wherein said first MEMS mirror for reflecting a beam of light from said active light source to said passive device and said second MEMS mirror for reflecting a beam of light from said passive optical device to said monitoring photodiode for the purpose of distinguishing different signals that are being transmitted by different sources.

#### **Additional Prior Art**

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The references listed in the attached form PTO-892 teach of other prior art alignment devices that may anticipate or obviate the claims of the applicant's invention.

#### ***Conclusion***

#### **Official Notice**

Several facts have been relied upon from the personal knowledge of the examiner about which the examiner took Official Notice. Applicant must seasonably challenge well known statements and statements based on personal knowledge. In re Selmi, 156 F.2d 96, 70 USPQ 197 (CCPA 1946); In re Fischer, 125 F.2d 725, 52 USPQ 473 (CCPA 1942). See also In re

Boon, 439 F.2d 724, 169 USPQ 231 (CCPA 1971) (a challenge to the taking of judicial notice must contain adequate information or argument to create on its face a reasonable doubt regarding the circumstances justifying the judicial notice). If applicant does not seasonably traverse the well-known statement during examination, then the object of the well-known statement is taken to be admitted prior art. In re Chevenard, 139 F.2d 71, 60 USPQ 239 (CCPA 1943). A seasonable challenge constitutes a demand for evidence made as soon as practicable during prosecution. Thus, applicant is charged with rebutting the well-known statement in the next reply after the Office action in which the well-known statement was made. See MPEP 2144.03, paragraphs 4 and 6.

#### **Fax/Telephone Information**

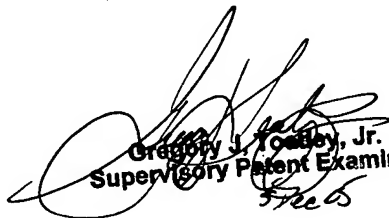
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Isiaka Akanbi whose telephone number is (571) 272-8658. The examiner can normally be reached on 8:00 a.m. - 4:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory J. Toatley Jr. can be reached on (571) 272-2800 ext. 77. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Isiaka Akanbi

November 26, 2005

  
Gregory J. Toatley, Jr.  
Supervisory Patent Examiner